UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/900,519	07/06/2001	Keith D. Allen	R-615	3963

7590 07/15/2003

DeltaGen, Inc.
1003 Hamilton Avenue
Menlo Park, CA 94025

EXAMINER
PARAS JR, PETER

ART UNIT.	PAPER NUMBER
1632	

DATE MAILED: 07/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Applicati n No.	Applicant(s)	
	09/900,519	ALLEN, KEITH D.	
	Examiner	Art Unit	
	Peter Paras, Jr.	1632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 May 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) *1-7,9,11-16 and 24* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8,10 and 17-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 January 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claims 1-24 are pending.

Election/Restrictions

Applicant's election with traverse of Group III (claims 8, 10, and 17-23) in Paper No. 10 is acknowledged. The traversal is on the ground(s) that the Examiner has not shown that a serious burden would be required to examine all the claims. This is not found persuasive because each of the Inventions requires a separate search status. In particular, it is maintained that the products of Groups I, II, III, VI and VII are different each from the other; they each have different chemical structures and can be used in materially different methods that require different technical considerations. For example, the DNA targeting construct of Group I can be used to disrupt an adrenomedullin receptor gene in a somatic cell *in vitro*, The cells of Group II can be used to produce and isolate a protein *in vitro*, the transgenic non-human animal of Group III can be used as a model of disease, the unknown agent of Group VI can be used for modulating the expression of an adrenomedullin receptor in a somatic cell *in vitro*, and the phenotypic data of Group VII can be used for statistical analysis with a computer. It is maintained that the products of Inventions I, II, III, VI and VII are distinct due to their divergent subject matter (DNA targeting construct, cells, transgenic non-human animal, unknown agent that can modulate the expression of an adrenomedullin receptor, and data in an electronic database) and are separately classified and searched.

It is maintained that the methods of Groups IV and V are distinct, comprising different methodologies and using different products. For example, the method of Group V can be practiced in a somatic cell *in vitro*, while the method of Group IV is required to be practiced in a transgenic non-human animal. It is maintained that the methods of Groups IV and V are distinct as they are directed to different methods that require the use of different products that need different technical considerations (transgenic non-human animals and somatic cells *in vitro*) and are separately searched and classified.

It is maintained that the products of Groups I, II, III, VI and VII are distinct from the methods of Groups IV and V; the products of Groups I, II, III, VI and VII can be used in methods, which require different reagents and technical considerations from the methods of Groups IV and V. For example, the DNA targeting construct of Group I may be used as a probe in a hybridization assay *in vitro* while the transgenic non-human animal of Group III may be used to produce antibodies to an antigen, the cells of Group II can be used to produce a protein *in vitro*, while the method of Group V may be used to identify agents that modulate the expression of an adrenomedullin receptor. The method of Group IV may be practiced with agents that have different chemical structures from the agent of Group VI. It is maintained that the products of Groups I, II, III, VI, and VII are distinct from and can be used in different methods (hybridization assays, generating antibodies, producing a protein) from the screening methods of Groups IV and V.

Therefore it is maintained that all the inventions are distinct each from the other for the reasons given above. The requirement is still deemed proper and is therefore made FINAL.

Please note that after a final requirement for restriction, the Applicants, in addition to making any response due on the remainder of the action, may petition the Commissioner to review the requirement. Petition may be deferred until after final action on or allowance of claims to the invention elected, but must be filed not later than appeal. A petition will not be considered if reconsideration of the requirement was not requested. (See § 1.181.).

Claims 1-7, 9, 11-16, and 24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 8.

The requirement is still deemed proper and is therefore made FINAL.

Specification

The Brief Description of the Drawings in the instant specification is objected to because there is no description of Figure 2A.

Sequence Compliance

This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37CFR 1.821(a)(1)

and (a)(2). However, this application fails to comply with the requirements of 37 CFR 1.821 through 1.825 for the reason(s) set forth on the attached **N**otice To Comply With Requirements For Patent Applications Containing **N**ucleotide Sequence And/Or Amino Acid Sequence Disclosures. Figure 2A comprises an unidentified sequence.

Applicants are required to comply with all of the requirements of 37 C.F.R. §§ 1.821 through 1.825. *Any* response to this Office Action, which fails to meet all of these requirements, will be considered non-responsive. The nature of the noncompliance with the requirements of 37 C.F.R. §§ 1.821 through 1.825 did not preclude the examination of the application on the merits, the results of which are communicated below.

Claim Rejections - 35 USC § 112, 1st paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 8, 10, and 17-23 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a transgenic mouse whose genome comprises a homozygous disruption of the nucleotide sequence set forth in SEQ ID NO: 1, wherein said nucleotide sequence encodes an adrenomedullin receptor, wherein the mouse exhibits a phenotype of hypoactivity and increased anxiety, and a method of making the same transgenic mouse comprising introducing a targeting construct into an ES cell, introducing the ES cell into a blastocyst, and implanting the blastocyst into a pseudopregnant mouse, and allowing said blastocyst to develop to term, does not

reasonably provide enablement for all other transgenic non-human animals and methods of making transgenic mice embraced by the claims. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

The claims are directed transgenic non-human animals, particularly a mouse, that comprise a disruption in an adrenomedullin receptor gene, the sequence of which is set forth in SEQ ID NO: 1, wherein the mouse exhibits a phenotype of hypoactivity and increased anxiety. The claims are further directed a method of producing a transgenic mouse comprising a disruption in an adrenomedullin receptor gene.

The specification teaches the generation of transgenic mice by disruption of the nucleotide sequence set forth in SEQ ID NO: 1, wherein SEQ ID NO: 1 encodes an adrenomedullin receptor. See page 6, at lines 20-23, page 8, and the working example on pages 51-52, of the specification. The specification teaches that transgenic mice whose genome comprises a homozygous disruption in SEQ ID NO:1 exhibit a phenotype of hypoactivity and increased anxiety as compared to wild-type mice, as a result of the disruption of the nucleotide sequence set forth in SEQ ID NO: 1. See pages 51-52 of the specification. While the specification has taught the generation of such a transgenic knockout mouse having a phenotype of hypoactivity and increased anxiety, the specification has not taught the generation of the other transgenic non-human animals encompassed by the claims. The specification has also taught a method of producing a transgenic mouse comprising a disruption in an adrenomedullin

receptor gene as set forth in the nucleotide sequence set forth in SEQ ID NO: 1, wherein the method requires introduction of a targeting construct into an embryonic stem cell. The specification has not taught how to create a transgenic mouse comprising a disruption in an adrenomedullin receptor gene wherein a targeting construct is introduced into any other cell. The working examples, guidance and relevant teachings provided by the instant specification are directed to the creation of the above transgenic mouse but do not support the creation of other transgenic non-human animals encompassed by the claims. See pages 51-52.

With regard to claim breadth, the standard under 112, first paragraph entails the determination of what the claims recite and what the claims mean as a whole. In addition, when analyzing the enabled scope of the claims, the teachings of the specification are taken into account because the claims are to be given their broadest reasonable interpretation that is consistent with the specification. As such, in light of the specification, the claimed invention is properly interpreted with regard to the disclosed phenotype of the exemplified transgenic mouse whose genome comprises a homozygous disruption of the nucleotide sequence set forth in SEQ ID NO: 1. Such an interpretation is consistent with the specification despite that the claimed non-human animals require only that they comprise a disrupted adrenomedullin receptor gene, particularly the nucleotide sequence set forth in SEQ ID NO: 1. This is because, with regard to the enablement requirement, one of skill in the art must be provided with both how to make and use the claimed invention. As such, the enabled scope of the claimed invention, in light of the teachings of the specification, is found to be the generation of a

transgenic mouse whose genome comprises a homozygous disruption of the nucleotide sequence set forth in SEQ ID NO: 1 which exhibit a phenotype of hypoactivity and increased anxiety.

The following aspect of the rejection under 35 U.S.C. 112, first paragraph is directed to claims 8, 10 and 17-23 as they read on transgenic knockout non-human animals, use of embryonic stem cells to make a transgenic mouse, and germline transmission of ES cells:

Both the specification and the state of the art have taught that the transgenic knockout technology requires the use of embryonic stem cells that have been genetically manipulated to comprise a disruption in a nucleotide sequence of interest. The specification has not taught creation of a transgenic knockout non-human animal by methods that do not require embryonic stem cells. Presently, the transgenic knockout technology is limited to the mouse system. See below.

With regard to the claim breadth directed to transgenic non-human animals, the specification fails to teach the production of any transgenic non-human animal comprising a disruption in an adrenomedullin receptor gene other than a transgenic knockout mouse whose genome comprises a homozygous disruption in the nucleotide sequence set forth in SEQ ID NO: 1. It is well known in the knockout art that the production of knockout animals other than mice is undeveloped. This is because ES cell technology is generally limited to the mouse system, at present, and that only "putative" ES cells exist for other species. See Moreadith et al. at page 214, Summary. Seamark (Reproductive Fertility and Development, 1994) supports this observation by

reporting that totipotency for ES cell technology in many livestock species has not been demonstrated (page 6, Abstract). Likewise, Mullins et al (Journal of Clinical Investigation, 1996) state that "although to date chimeric animals have been generated from several species including the pig, in no species other than the mouse has germline transmission of an ES cell been successfully demonstrated." (page S38, column 1, first paragraph). Moreover, with regard to claim 10 neither the state of the art nor the prior art of record has provided guidance for use of cells, other than ES cells for production of a transgenic knockout mouse. It would be unpredictable if other cells could be used for the production of a transgenic knockout mouse because other cells may be not totipotent or transmit through the germline as ES cells do. Even more, claims 8 and 17-23 as written do not appear to require germline transmission of the disrupted nucleotide sequence. These claims may be broadly interpreted to read on a single cell comprising a disrupted nucleotide sequence. Since the claims do not require germline transmission of the disrupted nucleotide sequence it would be unpredictable if an ES cell comprises the disrupted nucleotide sequence. As stated above the evidence of record does not support germline transmission of non-ES cells. Also, it would be unpredictable if a disruption of a nucleotide sequence in a single cell would result in a phenotype; the instant specification has not provided any uses for a transgenic mouse that does not exhibit a phenotype resulting from disruption of a nucleotide sequence (see below). As the claims are directed to transgenic non-human animals (claim 8) or a method that requires the use of a cell in the production of a transgenic mouse (claim 10), wherein the cell is interpreted to read on an embryonic stem cell (as in claim 10) comprising a

disruption in an adrenomedullin receptor gene, which must be generated by the introduction of a transgene into an ES cell or transgenic non-human animals, particularly a mouse, that do not exhibit germline transmission of a disrupted nucleotide sequence, the state of the art supports that only mouse ES cells were available for use for production of transgenic mice whose genomes comprise a homozygous disruption of an adrenomedullin receptor gene as set forth in SEQ ID NO: 1. Given the unpredictable state of the art it would have required undue experimentation for the skilled artisan to create transgenic knockout non-human animals of species other than the mouse or to make a transgenic knockout mouse with a cell other than an embryonic stem cell.

Claims 8 and 17 encompass transgenic non-human animals, particularly a mouse, that comprise a disruption in an adrenomedullin receptor gene, particularly the nucleotide sequence set forth in SEQ ID NO: 1, that do not exhibit any particular phenotype. The state of the art at the time of filing was such that one of skill could not predict the phenotype of a knockout mouse (Moreadith et al., 1997, J. Mol. Med., Vol. 75, pages 208-216; see page 208, column 2, last full paragraph). Moens et al. (Development, Vol. 119, pages 485-499, 1993) disclose that two mutations produced by homologous recombination in two different locations of the N-myc gene produce two different phenotypes in mouse embryonic stem cells, one leaky and one null (see abstract). The specification has asserted that the nucleotide sequence set forth in SEQ ID NO: 1 encodes an adrenomedullin receptor. However, it would be difficult to predict any phenotype resulting from disruption of the sequence of SEQ ID NO: 1 in light of the above. The specification discloses a phenotype exhibited by knockout mice comprising

a disruption in the nucleotide sequence set forth in SEQ ID NO: 1 is hypoactivity and increased anxiety. See pages 51-52 of the specification. Claims 8 and 17, as written, do not include a phenotype that differs from the wild-type mouse. Moreover the skilled artisan would not know how to use a transgenic knockout non-human animal that lacks a phenotype, particularly because the instant specification has not provided uses for such; the transgenic mice that have a phenotype may be used for drug testing according to the instant specification. The specification overcomes the unpredictability in obtaining a phenotype associated with a disruption of the nucleotide sequence set forth in SEQ ID NO: 1, which is asserted to encode an adrenomedullin receptor; however, the claims are not commensurate in scope with the enabled phenotype disclosed in the specification. Inclusion of a phenotype associated with a disruption of the nucleotide sequence set forth in SEQ ID NO: 1 or an adrenomedullin receptor gene in a mouse in the claims would overcome this aspect of the rejection. Given the unpredictable nature of a phenotype that results from disruption of a nucleotide sequence it would have required undue experimentation for the skilled artisan to use a transgenic non-human knockout animal that lacks a phenotype.

As a final issue, claims 17-22 encompass transgenic mice comprising a disruption in a homolog of the nucleotide sequence set forth in SEQ ID NO: 1. The specification has disclosed mice that comprise a disruption in the nucleotide sequence set forth in SEQ ID NO: 1, while the specification has not taught mice comprising a disruption in a homolog of the nucleotide sequence set forth in SEQ ID NO: 1. The claims broadly encompass disruption of nucleotide sequences that are homologs of the

nucleotide sequence set forth in SEQ ID NO: 1, which have different structures from the nucleotide sequence set forth in SEQ ID NO: 1; given the structural differences it may presumed that the encoded proteins possess different functions. Moreover, since the claims broadly encompass disrupting homologs of SEQ ID NO: 1, the members of the genus of such homologs may possess different functions and chemical structures, it would be unpredictable if disrupting homologs of SEQ ID NO: 1, would result in the phenotype of hypoactivity and increased anxiety as exhibited by transgenic mouse exemplified in the working example on pages 51-52 of the specification; the specification has not disclosed any homologs of the nucleotide sequence set forth in SEQ ID NO: 1. The issue of the unpredictability of a phenotype resulting from disruption of a homolog of SEQ ID NO: 1 arises because the state of the art at the time of filing was such that one of skill could not predict the phenotype of a knockout mouse as discussed above. See Moreadith. Moens et al. (see above) disclose that two mutations produced by homologous recombination in two different locations of the N-myc gene produce two different phenotypes in mouse embryonic stem cells, one leaky and one null (see abstract). The specification has asserted that the nucleotide sequence set forth in SEQ ID NO: 1 encodes an adrenomedullin receptor but has not provided any teachings with regard to homologs of the nucleotide sequence set forth in SEQ ID NO: 1. It would be difficult to predict any phenotype resulting from disruption of a homolog of the nucleotide sequence of SEQ ID NO: 1 in light of the above. The specification discloses a phenotype exhibited by knockout mice comprising a homozygous disruption in the nucleotide sequence set forth in SEQ ID NO: 1 is

hypoactivity and increased anxiety but has not disclosed a phenotype resulting from the disruption of a homolog of SEQ ID NO: 1. As such it would have required undue experimentation for the skilled artisan to make and use a transgenic mouse comprising a disruption of a homolog of the nucleotide sequence set forth in SEQ ID NO: 1 without a reasonable expectation of success.

Therefore, in view of the quantity of experimentation necessary to determine the parameters listed above for the production of transgenic non-human animals comprising a disruption in an adrenomedullin receptor gene, the lack of direction or guidance provided by the specification for the production of transgenic non-human animals comprising a disruption in an adrenomedullin receptor gene, the absence of working examples for the demonstration or correlation to the production of a transgenic knockout non-human animal that exhibits a phenotype other than the exemplified mouse, the unpredictable state of the art with respect to a phenotype that results from disruption of a given nucleotide sequence, the undeveloped art pertaining to the establishment of true embryonic stem (ES) cells of animal species other than mouse, and the breadth of the claims drawn to all non-human animals and to homologs of the nucleotide sequence set forth in SEQ ID NO: 1, it would have required undue experimentation for one skilled in the art to make and/or use the claimed invention.

It is noted that the following claim language may be sufficient to overcome the preceding enablement rejection: A transgenic mouse whose genome comprises a homozygous disruption of an adrenomedullin receptor gene, the

nucleotide sequence of which is set forth in SEQ ID NO: 1, exhibiting a phenotype of hypoactivity and increased anxiety.

Claims 17-23 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are directed transgenic non-human animals, particularly a mouse, that comprise a disruption in the nucleotide sequence set forth in SEQ ID NO: 1 or a homolog thereof, wherein the mouse exhibits a phenotype of hypoactivity and increased anxiety.

Vas-Cath Inc. v. Mahurkar, 19USPQ2d 1111 (Fed. Cir. 1991), clearly states that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention*. The invention is, for purposes of the 'written description' inquiry, *whatever is now claimed.*" Vas-Cath Inc. v. Mahurkar, 19USPQ2d at 1117. The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." Vas-Cath Inc. v. Mahurkar, 19USPQ2d at 1116.

The specification has provided a description for the nucleotide sequence set forth in SEQ ID NO: 1. The specification has asserted that the nucleotide sequence set forth in SEQ ID NO: 1 encodes an adrenomedullin receptor. However, the nucleotide sequences that are homologs of the nucleotide sequence set forth in SEQ ID NO: 1

have not been disclosed. Based upon the prior art there is expected to be variation among the species of polynucleotides that comprise the genus of nucleotide sequences as set forth in SEQ ID NO: 1. The specification has failed to disclose the nucleotide sequences of any nucleic acid that are homologs of the nucleotide sequence set forth in SEQ ID NO: 1. There is no evidence on the record of a relationship between the structures of any DNA molecules, which are homlogs of the nucleotide sequence set forth in SEQ ID NO: 1, that would provide any reliable information about the structures of other such DNA molecules. There is no evidence on the record that the nucleotide sequences that are homologs of the nucleotide sequence set forth in SEQ ID NO: 1 had a known structural relationship to other DNA sequences encompassed within the genus. Furthermore, the evidence of record has not provided evidence of a structural relationship between the nucleotide sequence set forth in SEQ ID NO: 1 and the nucleotide sequences that are homologs of the nucleotide sequence set forth in SEQ ID NO: 1. Moreover it is not known if the homologs of SEQ ID NO: 1 would encode proteins that would even possess the biological activity of the protein encoded by the nucleotide sequence set forth in SEQ ID NO: 1. The claimed invention as a whole is not adequately described if the claims require essential or critical elements which are not adequately described in the specification and which is not conventional in the art as of applicants effective filing date. Possession may be shown by actual reduction to practice, clear depiction of the invention in a detailed drawing, or by describing the invention with sufficient relevant identifying characteristics such that a person skilled in

the art would recognize that the inventor had possession of the claimed invention. Pfaff v. Wells Electronics, Inc., 48 USPQ2d 1641, 1646 (1998).

In the instant case the claimed embodiments of nucleotide sequence that are homologs of the nucleotide sequence set forth in SEQ ID NO: 1 lack a written description. The specification fails to describe what DNA molecules fall into this genus. The skilled artisan cannot envision the detailed chemical structure of the encompassed DNA molecules that are homologs of the nucleotide sequence forth in SEQ ID NO: 1, and therefore conception is not achieved until reduction to practice has occurred, regardless of the complexity or simplicity of the method of isolation. Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method of isolating it. See *Fiers v. Revel*, 25 USPQ2d 1601, 1606 (Fed. Cir. 1993) and *Amgen Inc. v. Chugai Pharmaceutical Co. Ltd.*, 18 USPQ2d 1016 (Fed. Cir. 1991).

One cannot describe what one has not conceived. See *Fiddes v. Baird*, 30 USPQ2d 1481, 1483. In *Fiddes*, claims directed to mammalian FGF's were found to be unpatentable due to lack of written description for that broad class. The specification provided only the bovine sequence.

In view of the above considerations one of skill in the art would not recognize that applicant was in possession of the necessary common features or attributes possessed by member of the genus of nucleotide molecules that are homologs of the nucleotide sequence forth in SEQ ID NO: 1. Moreover, the art would generally recognize that there would be variation among the species of the genus of polynucleotide molecules

that are homologs of the nucleotide sequence set forth in SEQ ID NO: 1. Therefore, Applicant was not in possession of the genus of nucleotide molecules that are homologs of the nucleotide sequence set forth in SEQ ID NO: 1 as encompassed by the claims. University of California v. Eli Lilly and Co., 43 USPQ2d 1398, 1404, 1405 held that to fulfill the written description requirement, a patent specification must describe an invention and do so in sufficient detail that one skilled in the art can clearly conclude that "the inventor invented the claimed invention."

Conclusion

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner(s) should be directed to Peter Paras, Jr., whose telephone number is 703-308-8340. The examiner can normally be reached Monday-Friday from 8:30 to 4:30 (Eastern time).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Reynolds, can be reached at 703-305-4051. Papers related to this application may be submitted by facsimile transmission. Papers should be faxed via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center numbers are (703) 308-4242 and (703) 305-3014.

Inquiries of a general nature or relating to the status of the application should be directed to Dianiece Jacobs whose telephone number is (703) 305-3388.

Peter Paras, Jr.

Art Unit 1632

PETER PARAS
PATENT EXAMINER

Application No.:09/900,519

NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

- [X] 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to these regulations, published at 1114 OG 29, May 15, 1990 and at 55 FR 18230, May 1, 1990.
- [ ] 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).
- [ ] 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).
- [ ] 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."
- [ ] 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).
- [ ] 6. The paper copy of the "Sequence Listing" is not the same as the computer readable from of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).
- [X] 7. Other: Figure 2A contains an unidentified sequence.

Applicant Must Provide:

- [ ] An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".
- [ ] An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.
- [ ] A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (703) 308-4216
For CRF Submission Help, call (703) 308-4212
PatentIn Software Program Support (SIRA)
Technical Assistance.....703-287-0200
To Purchase PatentIn Software.....703-306-2600

PLEASE RETURN A COPY OF THIS NOTICE WITH YOUR RESPONSE